

ABSTRACT OF THE DISCLOSURE

A method for transmitting digital data includes splitting a coherent optical carrier having a subcarrier into mutually coherent optical carriers, producing corresponding sequences of phase shifts in each of the mutually coherent optical carriers, and then, interfering the mutually coherent optical carriers. The interfering produces an output optical carrier whose subcarrier has modulated inphase and quadrature components with a corresponding sequence of pairs of values. The pairs of values of the modulated inphase and quadrature phase components produced by the interfering correspond to a sequence of coordinate pairs for the signal points the 4-PSK 2D, 16-QAM 2D, or 16-PSK 2D constellation.